Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

F.M.103
,941
6F22
op2

LABOR AND POWER

Used for Farm Enterprises

MISSISSIPPI

1950

RECORD
21 1953 ★
OF AGRICULTURE

by Q. Martin Morgan and Reuben W. Hecht

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF AGRICULTURAL ECONOMICS

WASHINGTON, D. C. APRIL 1953

PREFACE

The Bureau of Agricultural Economics makes annual estimates of the total man-hours of labor used in farming in the nine geographic divisions and in the United States. [1] Comparable data have also been developed for each State for 2 years. [2] These estimates are made by applying average man-hours per acre or per head to the official estimates of acres of crops and numbers of livestock. Man-hours per acre or per head vary from year to year, depending on yields, degree of mechanization, and other factors. The labor rates per acre and per head are not the result of special surveys. They are estimates based on secondary sources such as farm-management reports, studies of costs of production, and analyses of changes in farm practices and mechanization. These sources provided considerable data for some enterprises and areas and a great deal less for others.

The survey upon which this report is based was undertaken to provide current data as an aid in keeping these series up to date. It was conducted in four States: Idaho, Indiana, Mississippi, and Pennsylvania. Publications presenting the results of the survey in Idaho, Indiana, and Pennsylvania are available. [3]

---

[1] See Gains in Productivity of Farm Labor, U. S. Dept. Agr. Tech. Bul. 1020, 1950.

[2] See Labor Requirements for Crops and Livestock, U. S. Bur. Agr. Econ., F. M. 40, 1943 (Processed) and Farm Labor Requirements in the United States, 1939 and 1944, U. S. Bur. Agr. Econ., F.M. 59, 1947 (Processed).

[3] See Labor and Power Used for Farm Enterprises, Idaho, 1950, U. S. Bur. Agr. Econ., F.M. 95, 1952 (Processed), Labor and Power Used for Farm Enterprises, Indiana, 1950. U. S. Bur. Agr. Econ., F.M. 100, 1952 (Processed), and Labor and Power Used for Farm Enterprises, Pennsylvania, 1950. U. S. Bur. Agr. Econ., F.M. 102, 1953 (Processed).

ACKNOWLEDGEMENTS

Appreciation is extended to the Mississippi farmers who supplied information and to James Birkhead who supervised the field party. Assistance was given by many other members of the Bureau of Agricultural Economics and of Mississippi State College.

LABOR AND POWER USED FOR FARM ENTERPRISES
MISSISSIPPI, 1950

By

Q. Martin Morgan [1] and Reuben W. Hecht
Agricultural Economists

CONTENTS

	Page
How the survey was conducted	1
The questionnaire	3
Appraisal of survey method	3
Labor and power requirements for crops	4
Corn	5
Oats	5
Soybeans	6
Soybean hay	6
Lespedeza hay	7
Clover hay	8
Alfalfa hay	8
Johnson grass hay	8
Clover seed	9
Sweetpotatoes	9
Vegetables	9
Cabbage for fresh market	9
Tomatoes	10
String beans	10
Green peppers	11
Tung nuts	11
Pecans	12
Labor requirements for livestock	12
Milk cows	12
Cattle other than milk cows	13
Hogs	13
Chickens	14
Labor requirements for farm maintenance	14
Tables	16

HOW THE SURVEY WAS CONDUCTED

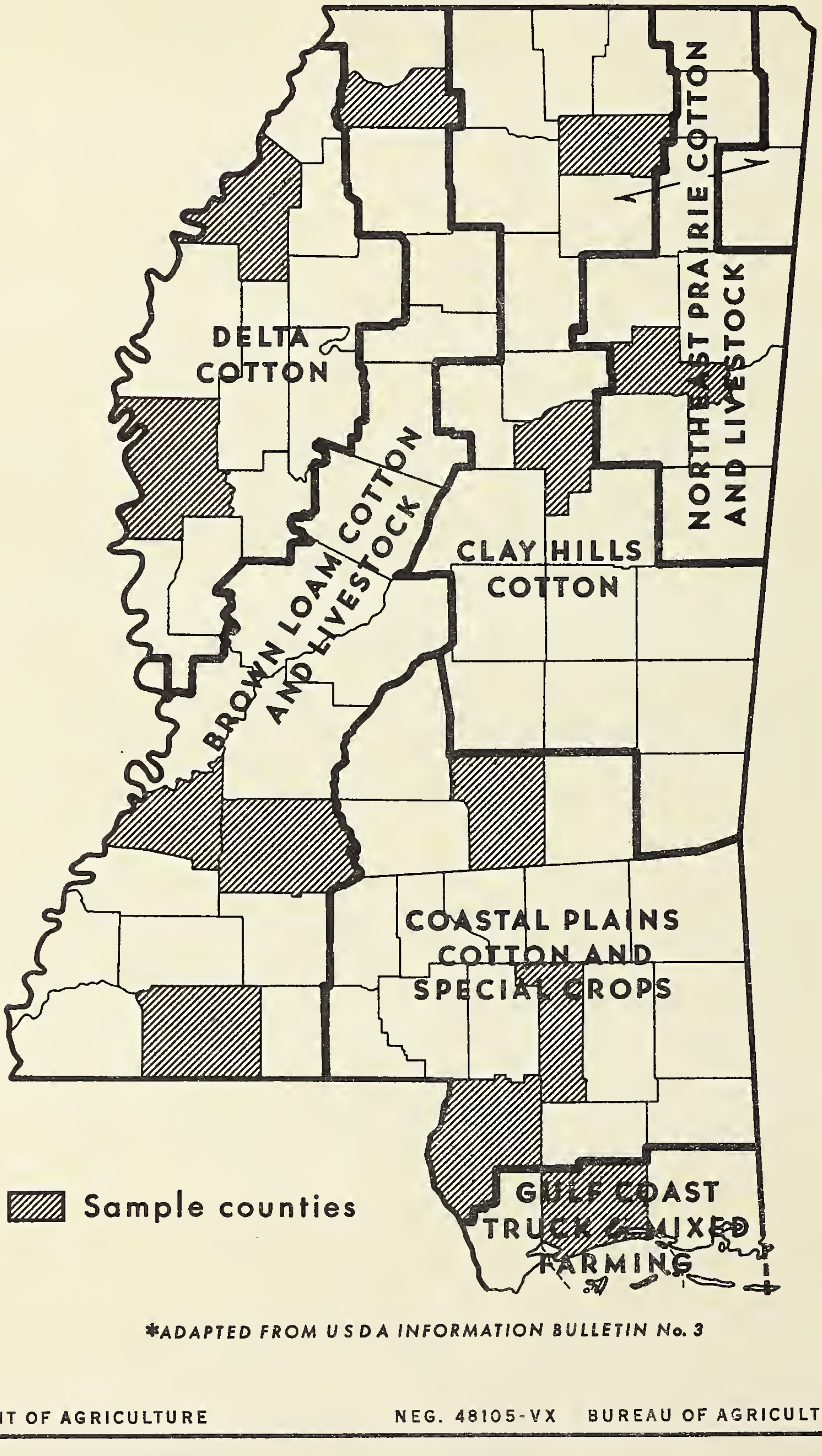
A "locality" type of questionnaire, in which each farmer was asked to answer for his locality rather than for his particular farm, was used in the survey upon which this report is based. This approach was used to obtain a wider coverage of areas and enterprises with a given quantity of research resources.

As indicated on the map on the following page, sampling was done by type-of-farming areas. A representative county was selected within each area. More than one was selected in some areas, primarily because some crops are grown extensively in part of an area only. In the Brown Loam area, for example, production of vegetable crops occurs principally in Copiah County while the other crops are more widely distributed in the area. Obtaining records in more than one county per area has the additional advantage of more widely distributing the records for enterprises important in all parts of an area. To simplify the discussion, the names of the type-of-farming areas are shortened in the text to Delta, Brown Loam, Clay Hills, Northeast Prairie, Coastal Plains, and Gulf Coast.

---

[1] Now with the Office of Foreign Agricultural Relations, United States Department of Agriculture.

MISSISSIPPI
Type-of-Farming Areas*


NORTHEAST PRAIRIE COTTON AND LIVESTOCK
DELTA COTTON
BROWN LOAM COTTON AND LIVESTOCK
CLAY HILLS COTTON
COASTAL PLAINS COTTON AND SPECIAL CROPS
GULF COAST TRUCK & MIXED FARMING
▨ Sample counties

*ADAPTED FROM USDA INFORMATION BULLETIN No. 3

U. S. DEPARTMENT OF AGRICULTURE NEG. 48105-VX BUREAU OF AGRICULTURAL ECONOMICS

In selecting farmers to interview within each sample county, persons living in the county were asked to prepare lists of "well-informed farmers" who would represent the entire range in size of crop and livestock enterprises and location within the county. Those who prepared lists in the various counties included county extension agents, Production and Marketing Administration committeemen, other representatives of the United States Department of Agriculture, dealers in farm supplies, and representatives of companies that process farm products such as milk and vegetables. So far as possible, farmers living in each part of the county whose names appeared on these independent lists the greater number of times were interviewed.

THE QUESTIONNAIRE

The questionnaire was composed of three records: labor requirements for crops, for livestock, and for farm maintenance. Completed records were obtained from farmers in a number of combinations and not necessarily one of each from every farmer interviewed.

Each farmer from whom a crop record was obtained was asked to indicate the operations performed in his locality in growing, harvesting, and marketing one or more of the crops he had grown for several years; and for each operation, the proportion of the acreage done with each kind and size of power unit and machine and the hours used per acre. He was asked to supply the average yield in his locality in the last few years. For certain crops other pertinent information was requested, such as the average number of pecan trees per acre.

For livestock, each farmer was asked to give the number of each kind on his farm, and to estimate for a comparable size of herd or flock in his locality the average amount of time spent during each season in doing daily chores and other livestock jobs. He was asked also to give his estimate of average production items, such as milk per cow, eggs per hen, and selling weights of meat animals. For farm maintenance, each farmer was asked to estimate the average time spent per year on each of several farm-maintenance jobs on farms in his locality that were similar to his both in size and in other respects. Farm-maintenance work includes a number of different jobs such as machinery repair; construction and maintenance of buildings, fences, and drainage structures; soil conservation work that is not a part of a regular crop operation; work on forests and permanent pastures; and time for business trips, other farm business, and miscellaneous jobs.

APPRAISAL OF SURVEY METHOD

This locality survey was set up on the assumption that even though farming methods change rapidly, alert farmers keep abreast of local changes. They know the kinds and sizes of power units used by their neighbors in crop production. They know the kind and number of operations usually performed and the amount of time each takes. Consequently, when farmers are questioned systematically regarding time requirements for crop production in their localities, as they were in this survey, a moderate number of records yield averages that will not differ greatly from those derived from individual farm questionnaires. Comparison of information obtained in this survey and those collected with individual farm questionnaires lends credence to this assumption. 1/

For several reasons, many farmers find it difficult to report accurately the amount of time spent on the different livestock enterprises. It is more difficult for them to report time spent on livestock than on crops, particularly when it is requested on a locality basis. Opportunity to observe time for livestock chores on neighboring farms is much less than for crops.

Frequently, parts of the chore work for a certain kind of livestock are done by different persons; children often do part of them. The division of work among the different persons may be on the basis of the extent of physical strength or skill demanded by different jobs. Even with only one person concerned, the flow of chore work on many farms is by kind of job rather than by type of livestock. For example, the feeding of several types of livestock may be done as an uninterrupted task rather than doing continuously all the chore work on one type of livestock. These things, however, affect similarly, data given by farmers regardless of whether they report for individual farms or for localities.

Similar problems are encountered in the collection of data regarding time spent performing farm-maintenance jobs as in the collection of data on labor requirements for livestock. Farm-maintenance work also is done intermittently and farmers find it hard to think in terms of total time spent on the various jobs.

In any survey, responses to any question that requires a numerical answer vary considerably. In this survey, there appeared to be more than the usual proportion of high answers to questions concerning yields of some crops and some livestock production items. The high responses may have resulted from several causes, but one reason may have been that estimates were requested that would represent an average for more than one year. Farmers probably tend to think of yields received in the more favorable years as being close to rather than above the average. Data from the Census, the Crop Reporting Board, and other sources facilitated thorough checking and editing of records received in this survey.

LABOR AND POWER REQUIREMENTS FOR CROPS

In this survey requirements were obtained for 16 crops. Data for these crops are presented in tables 1 to 11. The number of type-of-farming areas in which data for each crop were obtained varied from four for corn to only one for several. Information on cotton, the chief crop in the State, was omitted because considerable current data concerning requirements and practices used in producing it are available from other studies. 2/ Average man- and power-hours per acre are shown to the nearest hundredth of an hour even though that degree of accuracy does not exist in the data. This was done to prevent the time for some operations from

---

1/ For such comparisons see the publications for Idaho and Indiana based on this survey which are listed in footnote 3 of the preface.

2/ Mississippi Agricultural Experiment Station, M. R. No. 2 to No. 5, December, 1950.

dropping out of the average for the total acreage. An alternative would have been to do more rounding and footnoting.

Corn

Corn is the principal feed grain grown in Mississippi. It is exceeded in acreage and total man-hour requirements only by cotton. Corn usually occupies more than a third of the State's acreage of harvested crops. The acreage of corn in the State fluctuates to some extent with changes in acreage of cotton, and areas best suited to production of cotton generally have the smallest proportion of cropland in corn. Also, in areas such as the Delta, corn is usually grown on poorer soils than cotton.

Man-hours per acre for preharvest work on corn were 16.4 in the Coastal Plains area, 17.1 in the Delta area, 20.0 in the Brown Loam area, and 22.5 in the Clay Hills area (table 1). Preharvest operations were almost completely mechanized in the Delta. This was also true for the Coastal Plains area, while in the Brown Loam and Clay Hills areas a larger share of these operations was performed with workstock. Hoeing corn accounted for about 70 percent of the man-hour requirements for preharvest work in the Delta, while from 30 to 40 percent of the time was spent for this operation in each of the other areas.

Man-hours per acre for harvest ranged from 6.3 in the Delta to 7.7 in the Brown Loan area. Yields for these two areas, respectively, were 30 and 26 bushels per acre. In the Delta area 34 percent of the crop was harvested by machine but in the Brown Loam area only 7 percent was harvested by this method. All of the corn was harvested by hand in the Clay Hills and Coastal Plains. In both the Delta and Brown Loam areas only 47 percent as many man-hours were required for machine harvesting as were required for hand harvesting.

Total man-hours per acre ranged from 23.4 in the Delta to 29.8 in the Clay Hills area. The number of man-hours per acre was low in the Delta area because of more mechanization in both preharvest and harvest operations. The number was high in the Clay Hills and Brown Loam areas because of less mechanization and because of more times over for most of the preharvest operations. Total tractor-hours ranged from 1.5 in the Clay Hills area to 5.4 in the Delta area, and total horse-hours per acre from 3.4 in the Delta to 28.1 in the Clay Hills area. In the Delta area, use of horses was limited to hauling the corn picked by hand. Motor trucks were used only in areas in which mechanical harvesting was done--the Delta and Brown Loam areas. An average of less than one-fourth hour of truck use per acre was reported for each of these areas.

Oats

Oats for grain is a minor crop in Mississippi. It occupies about 3 percent of the land in harvested crops. A good deal of the crop is cut for hay or cut and fed unthreshed, but labor and power requirements for these uses of oats were not included in the survey.

Preharvest operations and man-hour requirements were similar for the two areas in which records were obtained (table 2). Average man-hours per acre for preharvest work were 4.6 for the Delta area and 4.2 for the Brown Loam area. This small difference in man-hours was owing primarily to more flatbreaking with horses in the Delta area.

In both areas the entire crop was harvested with combines. In the Delta area, trucks were used to haul a large proportion of the grain from the combine to storage while in the Brown Loam area about equal proportions of the crop were hauled with tractors, trucks, and horses. Man-hours for harvest averaged 3.5 in the Delta area and 3.3 in the Brown Loam area. Yields in these two areas were 40 and 34 bushels per acre, respectively.

Total man-hours per acre averaged 8.1 in the Delta area and 7.4 in the Brown Loam area. Total tractor-hours per acre in the two areas averaged 3.5 and 4.1, and total horse-hours were 3.8 and 3.1 per acre, respectively. Motor trucks were used on an average of less than an hour per acre in both areas.

Soybeans

Soybeans for beans were grown in 1949 on only 2 percent of the farms, and they occupied only 3 percent of the acreage of harvested crops in the State. About 72 percent of this relatively small acreage was grown in the Delta area and another 19 percent was grown in the Brown Loam area. Soybeans are especially adapted to the heavier soils in these areas.

Man-hours per acre for preharvest work averaged 4.3 in the Delta area and 6.5 in the Brown Loam area (table 3). Fewer man-hours for preharvest work in the Delta were a result of the greater use of tractors and larger equipment. In the Delta area nearly all of the preharvest operations were performed with tractor power. About 2.4 horse-hours per acre, most of which were for flat-breaking, were reported for preharvest work in the Brown Loam area, while less than 0.2 horse-hour per acre was used in the Delta area.

Soybeans were harvested with combines. An average of 2.7 and 3.4 man-hours was required to combine and haul an acre of soybeans in the Delta and Brown Loam areas, respectively. Total man-hours averaged 7.0 in the Delta area and 9.9 in the Brown Loam area. Total tractor-hours were 5.2 and 6.4, total horse-hours were 0.2 and 3.0, and total truck-hours were 0.6 and 0.5, respectively, for the two areas.

Soybean Hay

The total acreage of all hay grown in the State in 1950 accounted for less than 14 percent of the acreage in harvested crops. Soybean hay was grown on about 17 percent of the total acreage in hay crops. About half of this acreage was in the Delta area. The three areas for which data relating to soybean hay were obtained in this survey (Delta, Brown Loam and Clay Hills) accounted for three-fourths of the acreage (table 4).

Preharvest operations were performed with tractors on most of the soybeans for hay in the Delta area. Horses were used to some extent for preharvest work in the Brown Loam area, and the major portion of the acreage was worked with horses in the Clay Hills area. Man-hours per acre for preharvest work averaged 2.3 in the Delta area, 5.7 in the Brown Loam area, and 11.0 in the Clay Hills area.

More than three-fourths of the soybean hay was baled in the Delta and Brown Loam areas and almost 70 percent of it was put up loose in the Clay Hills area. In the Delta area labor requirements from windrow to storage averaged 1.6 man-hours per ton with a pick-up baler, 7.9 with a stationary baler, and 5.9 when put up loose. In the Brown Loam area man-hours by these methods averaged 2.5, 8.2, and 5.3 per ton, respectively. Corresponding figures for the Clay Hills area were 2.3, 8.3, and 5.9 man-hours per ton. Yields per acre averaged 1.5 tons in the Delta area, 1.3 tons in the Brown Loam area, and 1.2 tons in the Clay Hills area. Total man-hours per acre for harvest averaged 5.6 in the Delta area, 6.2 in the Brown Loam area, and 11.1 in the Clay Hills area. This amounts to 3.7, 4.8, and 9.3 man-hours per ton, respectively, for harvesting the hay in the three areas.

Total man-hours per acre were 7.9 in the Delta area, 11.8 in the Brown Loam area, and 22.1 in the Clay Hills area. Total tractor-hours per acre averaged 4.1, 5.6, and 1.2, respectively, for the three areas. Corresponding figures for horse-hours were 2.1, 6.9, and 25.3. Trucks were used only in the Delta area and they hauled a small percentage of the baled hay.

Lespedeza Hay

Lespedeza hay is harvested from a larger acreage than any other hay in the State. In 1950 about 41 percent of the acreage of hay was lespedeza. It is grown to some extent in all areas, but more generally in the north central part of the State. In 1949 about two-thirds of the crop was grown in the Brown Loam and Clay Hills areas. Data for lespedeza hay were obtained in this survey in these two areas (table 5). Few records on establishing a stand of lespedeza were obtained and the following pertain only to harvesting.

About two-thirds of the lespedeza hay in the Clay Hills area, and almost as much in the Brown Loam area, was baled. In the Clay Hills area, however, most of the baling was done with stationary balers. This method requires more man-hours than any other method used. For example, in the Clay Hills area man-hours per ton from windrow to storage were 3.3 with a pick-up baler, 5.0 when hauled loose, and 8.0 when the stationary baler was used. Total man-hours per acre for harvesting averaged 9.1 in the Brown Loam area and 11.9 in the Clay Hills area. Total man-hours per ton for harvesting, with an average yield of 1.5 tons in each area, were 6.1 and 7.9, respectively, for these areas.

Clover Hay

Acreage of clover hay grown in the State in 1949 was equal to about half the acreage of soybean hay and to only a sixth of the acreage of lespedeza hay. This small acreage is widely scattered over the State. In this survey a few records were obtained for clover hay in each of four areas; Brown Loam, Northeast Prairie, Coastal Plains, and Gulf Coast areas, which were combined for summary.

Three-fourths of the clover hay was baled and pick-up balers were used for more than half of the baling (table 6). Man-hours per ton from windrow to storage averaged 2.2 when a pick-up baler was used, 5.5 when hauled loose, and 7.3 when baled with a stationary baler. Total man-hours per acre for harvesting averaged 9.3. Total man-hours per ton averaged 5.8 with an average yield of 1.6 tons per acre.

Alfalfa Hay

Alfalfa is not an important hay crop in Mississippi. A few records were taken in the Delta, Brown Loam, and Northeast Prairie areas which were combined for summary. Only a part of the records contained information pertaining to establishing a stand and the data were summarized only for harvesting.

Less than 5 percent of the alfalfa was hauled and stored as loose hay, and the remainder was baled with pick-up balers (table 6). Man-hours per ton from windrow to storage averaged 2.1 for baled alfalfa and 5.9 for hauling and storing loose hay. An average of 10.0 man-hours was reported for harvesting an acre of alfalfa yielding 3.0 tons with 3.7 cuttings.

Johnson Grass Hay

Johnson grass in Mississippi, as is true for several of the Southern States, is important for two reasons. First, in fields devoted to other crops it is a noxious weed difficult to eradicate. Second, from fields too heavily infested with Johnson grass for immediate production of other crops comes a considerable share of the roughage utilized for livestock. The crop is not always harvested for hay, but it is often grazed. Where the grass is to be eradicated and the land devoted to other use, heavy grazing is a common practice. A few records were obtained for Johnson grass hay in the Brown Loam and Northeast Prairie areas. These records were combined for summary.

The data obtained in the survey indicate that about 84 percent of the Johnson grass hay was baled, and that most of the baling was done with pick-up balers (table 6). Man-hours per ton from windrow to storage averaged 2.8 when a pick-up baler was used, 6.4 when hauled loose, and 7.2 when baled with a stationary baler. Total man-hours averaged 10.4 for harvesting an acre of Johnson grass hay yielding 1.9 tons with 2.1 cuttings.

Clover Seed

Clover seed is harvested from a relatively small percentage of the clover acreage. Acreage from which clover seed is harvested is widely scattered throughout the State; a few records of harvesting requirements were obtained in all areas except the Gulf Coast area.

A little more than half of the acreage of clover harvested for seed was combined from the swath or windrow and the remainder was combined from the stand (table 7). Considdrable risk is taken when the crop is combined from the stand, because rain about the time the seed is ready to harvest results in almost total loss. Fewer man-hours per acre, however, are required when this method is used--1.9 compared with 3.2 for combining from the swath and windrow. Average labor requirements for harvesting were 2.6 man-hours an acre yielding 114 pounds of seed.

Sweetpotatoes

Sweetpotatoes are grown throughout the State. Commercial production, however, is centered in the Coastal Plains and Gulf Coast areas. In this survey a few records were taken in each of four areas--the Brown Loam, Clay Hills, Coastal Plains, and Gulf Coast areas. These records were put together for summary.

Operations performed in preparing land for sweetpotatoes required 9.8 man-hours per acre. Setting the plants required 23.9 man-hours per acre, and all other preharvest operations required 15.5 man-hours per acre (table 8). An average of 49.2 man-hours was required for all preharvest work. Only two of the preharvest operations - disking and breaking - were performed primarily with tractor power. Horses were used in most instances for other operations.

Man-hours for harvest averaged 80.9 per acre with a yield of 144 bushels. A few farmers clipped vines before digging the sweetpotatoes, but the usual operations were digging, picking up, crating or sacking, and hauling. Horses were used for digging as well as for a large part of the hauling.

Total man-hours averaged 130.1 per acre. Total tractor-hours were 3.7, total horse-hours 33.2, and total truck-hours 2.7 per acre.

Vegetables

Copiah County, located in the southern part of the Brown Loam area, is the center of commercial vegetable production in the State. This county and parts of adjoining counties contribute a large proportion of the vegetables grown for sale in the State. Data for the vegetable crops presented in tables 9 and 10 were obtained in this part of the Brown Loam area.

Cabbage for Fresh Market

The seedbed for cabbage is usually prepared in late fall and the plants are set in the field in January. The cabbage is usually harvested in May and some other crop is often grown on the land the same year.

Preharvest work, including growing the plants, required an average of 74 man-hours per acre (table 9). More than 60 percent of this was used in growing the plants and setting them in the field. Most of the seedbed preparation and cultivating were done with workstock. About 23 horse-hours per acre and only a half hour of tractor work were reported for preharvest operations.

Man-hours for harvesting were 68.2 per acre with an average yield of 6.4 tons. In harvesting, cabbage is cut and hauled from the field; most of it is sacked; and all of it is hauled to a packing shed or rail loading platform. It is usually graded and packed by commercial packers.

Total man-hours averaged 142.2 per acre. Total tractor hours averaged only 0.6 per acre while total horse-hours were 40.4 per acre. Trucks were used almost exclusively for hauling to the packing shed or rail loading platform. They were used an average of 12.7 hours per acre.

Tomatoes

Seedbeds for tomatoes are prepared a little later than are those for cabbage. Tomato plants are set in the field in late March or early April and the crop is usually harvested in June, a month later than cabbage.

Total man-hours for growing plants, preparing the seedbed, setting plants, and for cultivating and harvesting tomatoes were about the same as the requirements for cabbage (table 9). Some additional time-consuming preharvest operations were done for tomatoes but these were nearly offset by additional time for harvesting cabbage. On about half of the acreage, tomatoes were staked and most of this acreage was pruned. Staking and tying an acre required almost twice as much time as setting plants. It took about 17 man-hours to prune an acre of staked plants. A total of 94 man-hours per acre was required for preharvest work.

Labor used for harvest averaged about 55 man-hours for picking and hauling an acre with an average yield of 127 bushels. The average picking rate, including both staked and unstaked tomatoes, was 31 bushels per man for a 10-hour day.

Total man-hours averaged 148.6 per acre. Total horse-hours were 26.6 per acre, while less than an hour of tractor work per acre was reported. Total truck-hours were 12.4 per acre.

String Beans

Seedbeds for string beans are prepared at about the same time as those for tomatoes and the beans are planted about the middle of March. The crop is harvested in May and June. This overlaps the harvest periods for both cabbage and tomatoes.

Operations performed in preparing the seedbed and cultivating string beans were similar and man-hour requirements about the same as those reported for cabbage and tomatoes. Other preharvest operations, however, differ considerably and man-hour requirements are a great deal less. Disking, bedding, fertilizing, and harrowing the land before planting string beans required 8.7 man-hours per acre, planting averaged 1.8 man-hours, and all other preharvest operations required 15.9 man-hours per acre (table 10). This gives a total of 26.4 man-hours for preharvest work.

About 128 man-hours were required to pick and haul an acre of string beans with an average yield of 133 bushels. Picking is a time-consuming operation. The average picking rate was about 11.5 bushels per man in 10 hours or a little over a bushel per hour of actual work.

About 155 total man-hours were required per acre of string beans. About 1 hour of tractor-use, 26 horse-hours, and 11 truck-hours were reported per acre for all operations.

Green Peppers

Land for green peppers is prepared in about the same way as it is for string beans and other vegetables. Aside from growing plants, setting them was the most time-consuming preharvest operation, followed by hoeing (table 10). These two operations required almost half of the total time spent on preharvest work. An average of 77 man-hours was needed for preharvest work, including growing the plants.

Approximately 90 man-hours per acre were required for harvest. This was for picking and hauling 176 bushels of green peppers. In addition, on the average, 44 of the 176 bushels were washed and packed before hauling. The average picking rate was 26.6 bushels per man for 10 hours of work.

Tung Nuts

The first commercial tung grove in this country was planted in Florida in 1924. In 1935 the United States produced about 10 million pounds of tung nuts and in 1949 about 175 million pounds. In 1949 production in Mississippi amounted to about 80 million pounds from a little less than 5 million bearing trees. More than nine-tenths of this production came from the Coastal Plains area.

Most farmers cultivated tung trees an average of two times (table 11). Pruning was done on about a fifth of the grove each year. More than three-fourths of the acreage was fertilized, and a cover crop was planted on about a seventh of the acreage. Sprouts and weeds were cut on about a tenth of the grove, and weeds were mowed on almost a fifth. An average of about 5 man-hours and 1.5 tractor-hours was used per acre for preharvest operations.

The usual procedure in harvesting was to pick up tung nuts in baskets or hampers. Most of them were immediately transferred to bags which were hung in the trees to let the nuts dry. Later they were loaded and hauled to storage for additional curing. About 70 percent of the crop was handled in this way. The other 30 percent was hauled either in bags or in bulk direct to storage. After a curing period of several weeks in storage, the tung nuts were hauled to a crusher. These harvest operations required an average of 20 man-hours, three-fourths of a tractor-hour, and 1 truck-hour per acre of tung trees yielding 1,987 pounds of nuts. Approximately 25 man-hours, 2.4 tractor-hours, and 1 truck-hour were required per acre.

Pecans

In 1949 there were 576,000 pecan trees in Mississippi. This was equivalent to about 45,000 acres, of which 82 percent was in trees of bearing age. Improved trees, including budded, grafted, or top-worked trees, were on 80 percent of the bearing acreage. Approximately 25 percent of the improved trees were in the Coastal Plains area.

Preharvest work on bearing orchards of pecans required 2.2 man-hours per acre (table 11). Fertilizer was applied to 76 percent of the acreage, clean cultivation was practiced on 62 percent, a cover crop was seeded on 3 percent, and 30 percent of the acreage was mowed one or more times. Most of the fertilizer was applied by hand, but all other preharvest operations were performed with tractor power.

Man-hours for harvest averaged 18.9 per acre. This included time spent in shaking off or threshing the pecans left on the trees at harvest time, picking up the nuts, and hauling. About 20 percent of the pecans were bagged at harvest time. The average yield was 268 pounds per acre.

A total of about 21 man-hours and 2 tractor-hours was required per acre of pecans. Tractor power was the only type of power reported for production of pecans.

LABOR REQUIREMENTS FOR LIVESTOCK

Records obtained in the Coastal Plains and Gulf Coast areas were combined in summarizing the data as to the amount of labor used in caring for different kinds of livestock. Data from the United States Census on numbers of livestock in the various counties and by size of herd or flock were used as weights in combining the survey data into area and State averages.

Milk Cows

Man-hours required per milk cow ranged from 131 in the Brown Loam area to 140 in the Northeast Prairie, with a State average of 135 (table 12). Production of milk per cow, however, was highest in the

Northeast Prairie area and fewer man-hours were used per 100 pounds of milk than in any other area in the State. Man-hours per 100 pounds of milk ranged from 4.7 in the Northeast Prairie area to 5.0 in the Delta area with a State average of 4.8 man-hours.

The amount of labor required per milk cow as related to certain factors, such as size of herd, is shown in table 13. In herds of 15 cows and more, herds milked by hand averaged 20 cows and those milked by machine 33 cows. Each cow in the herds that were milked by machine required about 40 fewer man-hours per year, although each produced 280 more pounds of milk. Obviously, all of this saving in labor may not have resulted from the use of milking machines. But, if we assume that 90 percent of the saving was owing to the use of milking machines, then use of them saved 35 man-hours per cow per year. In herds of 20 to 30 cows, this would mean a saving of 700 to 1,050 man-hours per year. In herds of 8 cows per farm this would amount to 280 hours per year, or about a month of man-labor. Man-hours per 100 pounds of milk in the larger machine-milked herds, (33 cows per farm) were only 2.1, or about a third of the requirement in the smallest herds (2 cows per farm).

Cattle Other Than Milk Cows

Man-hours needed to feed and care for a beef cow and her calf up to weaning time varied little among areas. In the Gulf Coast, Coastal Plains, and Northeast Prairie areas, 15 man-hours were used per cow. In the Clay Hills and Brown Loam areas 16 and in the Delta area 17 man-hours were required per cow (table 14).

These labor-requirement records indicated that about the same amount of time was spent on young dairy stock as on young beef cattle, and that in most areas man-hour requirements for other cattle were about the same as those reported for beef cows. The State averages were 17 and 16 man-hours per head for other cattle and for beef cows, respectively.

Hogs

According to the United States Census, approximately a third of the farms in the State had sows and gilts for spring farrowing in 1950. Pork is produced on many farms primarily for home use. In most years about three-fourths as many fall as spring litters are produced. For all practicable purposes, the labor requirements given in table 15 are for a sow and two litters.

In 1950, an average of almost 100 man-hours was required to care for a sow and her litters in Mississippi. Using the number of pigs per litter and the selling weights given and allowing for an increase in the weight of the sow, this was equivalent to a little less than 4 man-hours per 100 pounds of pork produced. The greatest number of man-hours per sow was reported for the Brown Loam and Coastal areas and the pigs were marketed at lighter weights. Consequently, in these areas almost 5 man-hours were required per 100 pounds of pork produced. Three man-hours were used per 100 pounds of live-weight production in the Clay Hills and Northeast Prairie areas.

Approximately a third less time was required per sow in herds of 4 or more sows than in herds of 3 and fewer sows (table 16). In small herds averaging 2.1 sows, 110 man-hours were required per sow and litters or 4.4 man-hours per 100 pounds of production. Those in large herds, averaging 9.6 sows, required only 74 man-hours per sow and litters and only 2.5 man-hours per 100 pounds of liveweight production.

Chickens

The average laying flock in the State required 3.5 man-hours per hen in 1950 (table 17). Man-hours per hen did not vary greatly among areas; for each 100 eggs produced the variation was from 2.9 in the Coastal Plains and Gulf Coast areas to 4.8 in the Delta area. The rate of lay was 119 eggs per hen in the former areas and only 74 eggs per hen in the latter area. The State average was 100 eggs per hen.

The number of man-hours needed per hen was greatly influenced by size of laying flock (table 18). An average of 4.3 man-hours per hen was required for those in flocks of fewer than 50 layers, 2.7 man-hours per hen for those in flocks of 50-99, and 1.9 man-hours per hen for those in flocks of 100 or more. Hens in the larger flocks produced 8 eggs more per hen than those in the small flocks. Almost 2 1/2 times as much labor was required per 100 eggs produced in small flocks as for those produced in large flocks.

An average of 228 man-hours was required per 100 chickens raised in the State in 1950 (table 19). About 241 man-hours were required per 100 chickens raised in the Delta area. In the other areas, labor requirements ranged only from 225 to 228 man-hours per 100 chickens raised.

LABOR REQUIREMENTS FOR FARM MAINTENANCE

Time spent on farm-maintenance jobs in the Delta area totaled 349 man-hours on the average farm of 57 acres (table 20). The average size of farm was larger in the other areas and more time was used for farm maintenance. Man-hours used for farm maintenance per acre of farm land were lowest in the Brown Loam area and highest in the Coastal Plains area. Maintenance requirements were low in the Brown Loam area because proportionally fewer hours were spent on business trips, machinery repairs, and buildings than in any other area. These three jobs usually account for almost half of the hours required for maintenance. Data from the 1950 United States Census regarding average size of farms and the number of farms in the various size groups were used as weights in combining the survey data into area and State averages.

An average of 459 hours per farm was required for all farm maintenance work in the State. About 21 percent of this was for business trips. Another 16 percent was required to repair farm machinery, including tractors, trucks, horse-drawn implements, and the farm share of automobiles.

Work on permanent pasture took 14 percent and about the same amount was required for construction and maintenance of fences. Constructing and maintaining farm buildings took 11 percent of the time required for farm maintenance. Conducting the farm business took 9 percent, drainage work 6 percent, and conservation work which was not a part of a regular crop operation, 5 percent. Farm woodlots and miscellaneous jobs accounted for the remaining 4 percent of the time spent on farm maintenance.

Table 1.- Corn: Man- and power-hours per acre, indicated areas, Mississippi, 1950

Operation	Delta 1/				Brown Loam 2/				Clay Hills 3/				Coastal Plains 4/			
	Acreage covered				Acreage covered				Acreage covered				Acreage covered			
	Per-cent-age of total	Times over	Man-hrs. per acre once over	Man-hrs. per acre for total acreage	Per-cent-age of total	Times over	Man-hrs. per acre once over	Man-hrs. per acre for total acreage	Per-cent-age of total	Times over	Man-hrs. per acre once over	Man-hrs. per acre for total acreage	Per-cent-age of total	Times over	Man-hrs. per acre once over	Man-hrs. per acre for total acreage
	Per-cent	Num-ber	Hours	Hours	Per-cent	Num-ber	Hours	Hours	Per-cent	Num-ber	Hours	Hours	Per-cent	Num-ber	Hours	Hours
Cut stalks	33	1.0	0.39	0.13	11	1.0	1.46	0.16	--	--	--	--	--	--	--	--
Disk 5/	23	1.5	.80	.28	33	1.5	1.13	.56	26	1.4	1.65	.60	25	1.1	1.14	.31
Break	52	1.0	1.09	.57	22	1.0	2.69	.59	39	1.0	3.95	1.54	62	1.0	1.35	.84
Bed and rebed	56	1.4	.65	.51	65	1.9	2.76	3.41	74	1.9	1.82	2.56	18	1.5	5.28	1.43
Disk	79	1.2	.54	.51	30	2.0	.94	.56	37	1.4	1.79	.93	79	1.7	.86	1.15
Harrow	96	1.4	.44	.59	64	1.2	.86	.66	76	1.2	.77	.70	49	1.3	.51	.32
Fertilize	50	1.0	.52	.26	41	1.0	1.34	.55	38	1.0	1.59	.60	16	1.0	1.55	.25
Plant 6/	100	1.0	.47	.47	100	1.0	1.18	1.18	100	1.0	1.32	1.32	100	1.0	.86	.86
Cultivate 7/	100	3.3	.56	1.85	100	3.4	1.76	5.98	100	3.3	1.91	6.30	100	3.1	1.34	4.15
Side-dress	8	1.0	.72	.06	25	1.0	2.09	.52	5	1.0	.96	.05	24	1.0	1.94	.47
Hoe	89	1.0	13.33	11.86	78	1.0	7.48	5.83	79	1.0	10.00	7.90	79	1.0	8.34	6.59
Total preharvest				17.09				20.00				22.50				16.37
Pick by hand and haul	66	1.0	7.69	5.08	93	1.0	7.99	7.43	100	1.0	7.32	7.32	100	1.0	7.49	7.49
Pick with machine and haul	34	1.0	3.65	1.24	7	1.0	3.75	.26	--	--	--	--	--	--	--	--
Total harvest				6.32				7.69				7.32				7.49
Total man-hours				23.41				27.69				29.82				23.86
				Power-hours				Power-hours				Power hours				Power-hours
Total tractor-hours				5.39				2.84				1.53				5.27
Total truck-hours				.21				.04				--				--
Total horse-hours				3.38				18.98				28.12				10.80

1/ From 12 records with an average yield of 30 bushels per acre.
2/ From 50 records with an average yield of 26 bushels per acre.
3/ From 29 records with an average yield of 28 bushels per acre.
4/ From 8 records with an average yield of 25 bushels per acre.
5/ Before breaking or bedding.
6/ Includes plant and fertilize as one operation.
7/ Includes cultivate and side-dress as one operation.

Table 2.- Oats: Man- and power-hours per acre, indicated areas, Mississippi, 1950

Operation	Delta 1/				Brown Loam 2/			
	Acreage covered				Acreage covered			
	Percentage of total	Times over	Man-hrs. per acre once over	Man-hrs. per acre for total acreage	Percentage of total	Times over	Man-hrs. per acre once over	Man-hrs. per acre for total acreage
	Percent	Number	Hours	Hours	Percent	Number	Hours	Hours
Flat-break	72	1.0	2.68	1.93	59	1.0	1.92	1.13
Disk	88	1.8	.73	1.16	94	1.7	.92	1.47
Harrow	75	1.5	.35	.39	84	1.1	.45	.42
Fertilize	27	1.0	.41	.11	26	1.0	.78	.20
Drill seed	70	1.0	.42	.29	81	1.0	.57	.46
Broadcast by hand	30	1.0	.76	.23	19	1.0	.80	.15
Harrow and/or cultipack	49	1.0	.51	.25	45	1.0	.43	.19
Top dress	25	1.0	.86	.22	32	1.0	.48	.15
Total preharvest				4.58				4.17
Combine	100	1.0	1.82	1.82	100	1.0	1.59	1.59
Haul grain	100	1.0	1.65	1.65	100	1.0	1.68	1.68
Total harvest				3.47				3.27
Total man-hours				8.05				7.44
				Power-hours				Power-hours
Total tractor-hours				3.51				4.12
Total truck-hours				.82				.27
Total horse-hours				3.79				3.10

1/ From 16 records with an average yield of 40 bushels per acre.
2/ From 19 records with an average yield of 34 bushels per acre.

Table 3.- Soybeans: Man- and power-hours per acre, indicated areas, Mississippi, 1950

Operation	Delta 1/				Brown Loam 2/			
	Acreage covered				Acreage covered			
	Percentage of total	Times over	Man-hrs. per acre once over	Man-hrs. per acre for total acreage	Percentage of total	Times over	Man-hrs. per acre once over	Man-hrs. per acre for total acreage
	Percent	Number	Hours	Hours	Percent	Number	Hours	Hours
Flat-break	55	1.1	1.31	0.79	60	1.0	2.35	1.41
Bed	29	1.7	.54	.27	--	--	--	--
Disk	98	2.0	.51	1.00	100	1.9	.81	1.54
Harrow or cultipack	98	1.6	.25	.39	100	1.7	.50	.85
Fertilize	8	1.0	.95	.08	20	1.0	1.00	.20
Plant 3/	100	1.0	.44	.44	100	1.0	.65	.65
Harrow or cultipack	8	1.0	.25	.02	20	1.0	.63	.13
Cultivate	92	4.2	.34	1.31	80	2.8	.77	1.72
Total preharvest				4.30				6.50
Combine	100	1.0	1.65	1.65	100	1.0	1.93	1.93
Haul	100	1.0	1.06	1.06	100	1.0	1.45	1.45
Total harvest				2.71				3.38
Total man-hours				7.01				9.88
				Power-hours				Power-hours
Total tractor-hours				5.22				6.37
Total truck-hours				.61				.50
Total horse-hours				.16				3.03

1/ From 13 records with an average yield of 27 bushels per acre.

2/ From 5 records with an average yield of 23 bushels per acre.

3/ Includes plant and fertilize as one operation.

Table 4.- Soybeans for hay: Man- and power-hours per acre, indicated areas, Mississippi, 1950

Operation	Delta 1/				Brown Loam 2/				Clay Hills 3/			
	Acreage covered				Acreage covered				Acreage covered			
	Percentage of total	Times over	Man-hrs. per acre once over	Man-hrs. per acre for total acreage	Percentage of total	Times over	Man-hrs. per acre once over	Man-hrs. per acre for total acreage	Percentage of total	Times over	Man-hrs. per acre once over	Man-hrs. per acre for total acreage
	Pct.	No.	Hrs.	Hrs.	Pct.	No.	Hrs.	Hrs.	Pct.	No.	Hrs.	Hrs.
Flat-break	66	1.0	0.81	0.53	27	1.0	1.95	0.53	26	1.0	7.78	2.02
Disk	100	1.2	.48	.58	85	2.3	.83	1.62	73	1.5	1.48	1.62
Bed	9	1.5	.94	.13	12	5.0	1.67	1.00	42	1.4	2.12	1.25
Harrow or cultipack	100	1.5	.28	.42	50	1.2	.62	.37	53	1.1	.93	.54
Fertilize	--	--	--	--	--	--	--	--	33	1.0	2.08	.69
Inoculate	--	--	--	--	22	1.0	.20	.04	--	--	--	--
Plant or drill	100	1.0	.30	.30	100	1.0	.72	.72	100	1.0	1.25	1.25
Harrow or cultipack	18	1.0	.40	.07	34	1.0	.50	.17	11	1.0	.67	.07
Cultivate	25	2.4	.40	.24	12	3.0	3.33	1.20	53	3.0	2.24	3.56
Total preharvest				2.27				5.65				11.00
Mow	100	1.0	.70	.70	100	1.0	.80	.80	72	1.0	1.80	1.30
Rake	100	1.0	.64	.64	100	1.0	.53	.53	72	1.0	.61	.44
Cut and tie by hand	--	--	--	--	--	--	--	--	28	1.0	10.00	2.80
Pick-up bale	76	1.0	.74	.56	67	1.0	1.45	.97	19	1.0	.98	.19
Stationary bale	12	1.0	10.20	1.22	9	1.0	8.84	.80	12	1.0	8.22	.99
Haul and store bales	88	1.0	1.61	1.42	76	1.0	1.63	1.39	31	1.0	1.79	.55
Haul loose and store 4/	12	1.0	8.85	1.06	24	1.0	6.90	1.66	69	1.0	7.05	4.86
Total harvest				5.60				6.15				11.13
Total man-hours				7.87				11.80				22.13
				Power-hours				Power-hours				Power-hours
Total tractor-hours				4.05				5.56				1.18
Total truck-hours				.33				--				--
Total horse-hours				2.11				6.89				25.33

1/ From 4 records with an average yield of 1.5 tons per acre. 2/ From 8 records with an average yield of 1.3 tons per acre. 3/ From 9 records with an average yield of 1.2 tons per acre. 4/ Includes hauling the hand-tied bundles.

Table 5.- Lespedeza hay: Man- and power-hours per acre for harvesting, indicated areas, Mississippi, 1950

Operation	Brown Loam 1/				Clay Hills 2/			
	Acreage covered				Acreage covered			
	Percentage of total	Times over	Man-hours per acre once over	Man-hrs. per acre for total acreage	Percentage of total	Times over	Man-hours per acre once over	Man-hrs. per acre for total acreage
	Percent	Number	Hours	Hours	Percent	Number	Hours	Hours
Mow	100	1.1	1.11	1.22	100	1.2	1.43	1.72
Rake	100	1.1	1.03	1.13	100	1.2	.77	.92
Pick-up bale	45	1.1	1.24	.61	18	1.2	1.19	.26
Stationary bale	15	1.1	8.37	1.38	49	1.2	7.12	4.19
Haul and store bales	60	1.1	3.04	2.01	67	1.2	2.90	2.33
Haul loose and store	40	1.1	6.26	2.75	33	1.2	6.23	2.47
Total man-hours				9.10				11.89
				Power-hours				Power-hours
Total tractor-hours				1.61				.62
Total truck-hours				.66				--
Total horse-hours				6.11				10.95

1/ From 25 records with an average yield of 1.5 tons per acre.

2/ From 24 records with an average yield of 1.5 tons per acre.

Table 6.- Clover, Alfalfa, and Johnson Grass hay: Man- and power-hours per acre for harvesting, Mississippi, 1950

Operation	Clover hay 1/				Alfalfa hay 2/				Johnson Grass hay			
	Acreage covered			Man-hrs. per acre for total acreage	Acreage covered			Man-hrs. per acre for total acreage	Acreage covered			Man-hrs. per acre for total acreage
	Per-cent-age of total	Times over	Man-hrs. per acre once over		Per-cent-age of total	Times over	Man-hrs. per acre once over		Per-cent-age of total	Times over	Man-hrs. per acre once over	
	Per-cent	Num-ber	Hours	Hours	Per-cent	Num-ber	Hours	Hours	Per-cent	Num-ber	Hours	Hours
Mow	100	1.0	0.83	0.83	100	3.7	0.45	1.66	100	2.1	0.98	2.06
Rake	100	1.0	1.03	1.03	100	3.7	.45	1.66	100	2.1	.57	1.20
Pick-up bale	43	1.0	1.32	.57	96	3.7	.66	2.34	75	2.1	1.36	2.14
Stationary bale	32	1.0	9.50	3.04	--	--	--	--	9	2.1	5.36	1.01
Haul and store bales	75	1.0	2.17	1.63	96	3.7	1.02	3.62	84	2.1	1.18	2.08
Haul loose and store	25	1.0	8.79	2.20	4	3.7	4.76	.70	16	2.1	5.79	1.95
Total man-hours				9.30				9.98				10.44
				Power-hours				Power-hours				Power-hours
Total tractor-hours				2.70				4.98				2.57
Total truck-hours				.13				--				.32
Total horse-hours				3.17				.70				6.24

1/ From 12 records with an average yield of 1.6 tons per acre.
2/ From 6 records with an average yield of 3.0 tons per acre.
3/ From 7 records with an average yield of 1.9 tons per acre.

Table 7.- Clover seed: Man- and power-hours per acre, Mississippi, 1950 1/

Operation	Acreage covered			Man-hours per acre for total acreage
	Percentage of total	Times over	Man-hours per acre once over	
	Percent	Number	Hours	Hours
Mow	58	1.0	0.65	0.38
Rake	23	1.0	.39	.09
Combine standing	42	1.0	1.85	.78
Combine from swath or windrow	58	1.0	2.40	1.39
Total man-hours				2.64
				Power-hours
Total tractor-hours				1.68
Total truck-hours				--
Total horse-hours				.04

1/ From 20 records with an average yield of 114 pounds per acre.

Table 8.- Sweet potatoes: Man- and power-hours per acre, Mississippi, 1950 1/

Operation	Acreage covered: Percentage of total	Times over	Man-hours per acre once over	Man-hours per acre for total acreage
	Percent	Number	Hours	Hours
Break	31	1.0	3.94	1.22
Disk	83	1.7	1.15	1.62
Bed	100	1.9	2.51	4.77
Harrow	62	1.1	1.33	.91
Fertilize	83	1.0	1.58	1.31
Set plants	100	1.0	23.85	23.85
Water plants	4	1.0	20.00	.80
Cultivate	100	3.1	2.40	7.44
Hoe	46	1.0	15.67	7.21
Side-dress	8	1.0	.67	.05
Total preharvest				49.18
Clip vines	12	1.0	10.00	1.20
Dig	100	1.0	3.03	3.03
Pick-up and haul 2/	100	1.0	76.66	76.66
Total harvest				80.89
Total man-hours				130.07
				Power-hours
Total tractor-hours				3.71
Total truck-hours				2.67
Total horse-hours				33.20

1/ From 13 records with an average yield of 144 bushels per acre.

2/ Includes crating or bagging.

Table 9.-- Cabbage and tomatoes: Man- and power-hours per acre, Brown Loam area, Mississippi, 1950

Operation	Cabbage 1/				Tomatoes 2/			
	Acreage covered			Man-hrs. per acre for total acreage	Acreage covered			Man-hrs. per acre for total acreage
	Percentage of total	Times over	Man-hrs. per acre once over		Percentage of total	Times over	Man-hrs. per acre once over	
	Percent	Number	Hours	Hours	Percent	Number	Hours	Hours
Grow plants	100	--	--	23.50	100	--	--	18.00
Disk	60	1.3	1.16	.90	51	1.2	1.28	.78
Bed	100	1.4	3.88	5.43	100	1.4	4.05	5.67
Harrow	81	1.0	1.39	1.13	88	1.0	1.48	1.30
Fertilize	100	1.0	1.73	1.73	100	1.0	1.77	1.77
Set plants	100	1.0	22.45	22.45	100	1.0	18.21	18.21
Hoe	34	1.0	13.69	4.65	34	1.2	11.90	4.86
Cultivate	100	3.6	2.83	10.19	100	4.1	2.98	12.22
Side-dress	28	1.0	2.09	.59	41	1.0	1.98	.81
Poison	87	1.6	2.49	3.47	63	1.9	1.79	2.14
Stake and tie	--	--	--	--	49	1.0	32.05	15.70
Prune, staked plants	--	--	--	--	35	2.0	16.94	11.86
Prune, plants, not staked	--	--	--	--	7	1.0	4.16	.29
Total preharvest				74.04				93.61
Harvest	100	1.0	41.63	41.63	100	4.5	9.04	40.68
Sack	80	1.0	16.73	13.38	--	--	--	--
Haul	100	1.0	13.19	13.19	100	4.5	3.18	14.31
Total harvest				68.20				54.99
Total man-hours				142.24				148.60
				Power-hours				Power-hours
Total tractor-hours				.60				.83
Total truck-hours				12.74				12.38
Total horse-hours				40.37				26.60

1/ From 21 records with an average yield of 6.4 tons per acre.
2/ From 17 records with an average yield of 127 bushels per acre.

Table 10.- String beans and green peppers: Man- and power-hours per acre, Brown Loam area, Mississippi, 1950

Operation	String beans 1/				Green peppers 2/			
	Acreage covered			Man-hrs. per acre for total acreage	Acreage covered			Man-hrs. per acre for total acreage
	Percentage of total	Times over	Man-hrs. per acre once over		Percentage of total	Times over	Man-hrs. per acre once over	
	Pct.	No.	Hrs.	Hrs.	Pct.	No.	Hrs.	Hrs.
Grow plants	--	--	--	--	100	--	--	16.80
Disk	54	1.4	1.23	.93	67	1.3	1.13	.98
Bed	100	1.4	3.64	5.10	100	1.2	4.08	4.90
Harrow	82	1.1	1.28	1.15	100	1.1	1.30	1.43
Fertilize	100	1.0	1.56	1.56	100	1.0	1.84	1.84
Plant	100	1.0	1.76	1.76	--	--	--	--
Set plants	--	--	--	--	100	1.0	22.71	22.71
Cultivate	100	3.3	2.78	9.17	100	4.3	2.99	12.86
Hoe	21	1.0	11.67	2.45	78	1.2	14.16	13.25
Side-dress	99	1.0	1.84	1.82	98	1.0	1.89	1.85
Dust	83	1.3	2.25	2.43	--	--	--	--
Total preharvest				26.37				76.62
Pick	100	1.0	115.87	115.87	100	4.0	16.54	66.16
Wash and pack	---	--	--	--	25	4.0	9.66	9.66
Haul	100	1.0	12.58	12.58	100	4.0	3.52	14.08
Total harvest				128.45				89.90
Total man-hours				154.82				166.52
				Power-hours				Power-hours
Total tractor-hours				.70				.92
Total truck-hours				10.91				7.30
Total horse-hours				25.94				23.71

1/ From 17 records with an average yield of 133 bushels per acre.

2/ From 8 records with an average yield of 176 bushels per acre.

Table 11.- Tung nuts and pecans: Man- and power-hours per acre, Coastal Plains area, Mississippi, 1950

Operation	Tung nuts [1]				Pecans [2]			
	Acreage covered			Man-hrs. per acre for total acreage	Acreage covered			Man-hrs. per acre for total acreage
	Percentage of total	Times over	Man-hrs. per acre once over		Percentage of total	Times over	Man-hrs. per acre once over	
	Percent	Number	Hours	Hours	Percent	Number	Hours	Hours
Prune, remove brush	22	1.3	3.61	1.03	--	--	--	--
Spread manure	1	1.0	5.00	.05	--	--	--	--
Cultivate	93	2.0	.55	1.02	62	1.8	1.08	1.20
Fertilize	77	1.2	1.73	1.60	76	1.0	1.08	.82
Cover crop [3]	15	1.1	.68	.11	3	3.0	.50	.04
Cut sprouts and weeds	11	1.0	6.67	.73	--	--	--	--
Mow	18	1.0	.73	.13	30	1.3	.29	.11
Total preharvest				4.67				2.17
Pick up	100	1.0	14.04	14.04	100	1.0	16.97	16.97
Check	26	1.0	1.29	.34	--	--	--	--
Bag and haul to storage	21	1.0	3.73	.78	--	--	--	--
Load and haul to storage	9	1.0	1.81	.16	100	1.0	1.18	1.18
Bag and hang in tree	70	1.0	2.53	1.77	[4]20	1.0	3.80	.76
Load and haul to storage	70	1.0	1.92	1.34	--	--	--	--
Haul to crusher	100	1.0	1.70	1.70	--	--	--	--
Total harvest				20.13				18.91
Total man-hours				24.80				21.08
				Power-hours				Power-hours
Total tractor-hours				2.40				2.04
Total truck-hours				1.03				--

[1] From 14 records with an average yield of 1,987 pounds per acre.
[2] From 12 records with an average yield of 268 pounds per acre.
[3] Includes land preparation and seeding.
[4] Consists of bagging only.

Table 12.- Milk cows: Man-hours per head and per 100 pounds of milk, indicated areas, Mississippi, 1950

Area	Records	Average size of herd	Milk produced per cow	Man-hours	
				Per cow	Per cwt. milk
	Number	Cows	Pounds	Hours	Hours
Delta	15	16	2,651	133	5.02
Brown Loam	63	12	2,651	131	4.94
Clay Hills	39	10	2,846	137	4.81
Northeast Prairie	16	20	2,985	140	4.69
Coastal Plains and Gulf Coast	24	19	2,762	133	4.82
State	157	14	2,789	135	4.84

Table 13.- Milk cows: Relation of size of herd and method of milking to man-hours per head and per 100 pounds of milk, Mississippi, 1950

Size of herd	Method of milking	Records	Average size of herd	Milk produced per cow	Man-hours	
					Per cow	Per cwt. milk
		Number	Cows	Pounds	Hours	Hours
1 to 4 cows	Hand	69	2	2,449	145	5.92
5 - 14	Hand	32	8	2,983	131	4.39
15 or more	Hand	9	20	3,764	122	3.24
15 or more	Machine	47	33	4,044	83	2.05

Table 14.- Cattle other than milk cows: Man-hours per head, indicated areas, Mississippi, 1950

Area	Records 1/	Man-hours per head	
		Beef cows	Other cattle 2/
	Number	Hours	Hours
Delta	20	17	16
Brown Loam	76	16	17
Clay Hills	37	16	19
Northeast Prairie	17	15	15
Coastal Plains and Gulf Coast	35	15	15
State	185	16	17

1/ Number giving labor requirements for beef cows or other cattle.

2/ Includes young stock and bulls in dairy as well as beef herds.

Table 15.- Hogs: Man-hours per sow and litters, indicated areas, Mississippi, 1950

Area	Records	Average size of herd	Man-hours per sow and litters	Pigs per litter	Average weight of hogs marketed
	Number	Sows	Hours	Number	Pounds
Delta	19	4.3	95	7	237
Brown Loam	35	2.4	103	6	211
Clay Hills	20	2.5	95	7	242
Northeast Prairie	10	1.2	97	7	256
Coastal Plains and Gulf Coast	13	2.2	101	6	189
State	97	2.7	99	6	224

Table 16.- Hogs: Relation of size of herd to man-hours per sow and litters, Mississippi, 1950

Size of herd	Records	Average size of herd	Man-hours per sow and litters	Pigs per litter	Average weight of hogs marketed
	Number	Sows	Hours	Number	Pounds
1 to 3 sows	59	2.1	110	6	227
4 or more	38	9.6	74	7	218

Table 17.- Chickens: Man-hours required for laying flocks, indicated areas, Mississippi, 1950

Area	Records	Average size of flock	Rate of lay	Man-hours Per hen	Man-hours Per 100 eggs
	Number	Hens	Eggs	Hours	Hours
Delta	15	73	74	3.53	4.77
Brown Loam	63	69	91	3.48	3.82
Clay Hills	39	73	109	3.46	3.17
Northeast Prairie	17	57	99	3.40	3.43
Coastal Plains and Gulf Coast	24	53	119	3.49	2.93
State	158	67	100	3.48	3.48

Table 18.- Chickens: Relation of size of laying flock to man-hours per hen, Mississippi, 1950

Size of flock	Records	Rate of lay	Man-hours Per hen	Man-hours Per 100 eggs
	Number	Eggs	Hours	Hours
49 or fewer hens	100	98	4.30	4.39
50 - 99	36	100	2.72	2.72
100 or more	22	106	1.92	1.81

Table 19.- Chickens: Man-hours required for replacement flocks, indicated areas, Mississippi, 1950

Area	Records	Chickens per flock	Man-hours per chicken raised
	Number	Number	Hours
Delta	15	163	2.41
Brown Loam	55	113	2.25
Clay Hills	35	82	2.27
Northeast Prairie	14	111	2.28
Coastal Plains and Gulf Coast	23	75	2.25
State	142	104	2.28

Table 20.- Farm Maintenance: Man-hours per farm, indicated areas, Mississippi, 1950

Area	Records	Average size of farm	Time for farm maintenance
	Number	Acres	Hours
Delta	17	57	349
Brown Loam	22	99	400
Clay Hills	10	86	541
Northeast Prairie	6	83	460
Coastal Plains	15	89	573
Gulf Coast	6	78	486
State	76	82	459